



Fräulein Hanna Reitsch flying the F.W.61 inside the Deutschlandhalle in Berlin.

# HELICOPTER PROGRESS

*Professor H. Focke Explains the Reasons Which Caused Him to Select the Twin-Rotor Type, and Relates Some of the Results Obtained*

**A**MONG the number of flights made by the Focke-Wulf F.W.61 helicopter in Germany since its first appearance last year, which included flights that established new world's records for this class of aircraft, none has carried more conviction than the flight made by Fräulein Hanna Reitsch inside the Deutschlandhalle in Berlin some weeks ago. Leonardo da Vinci

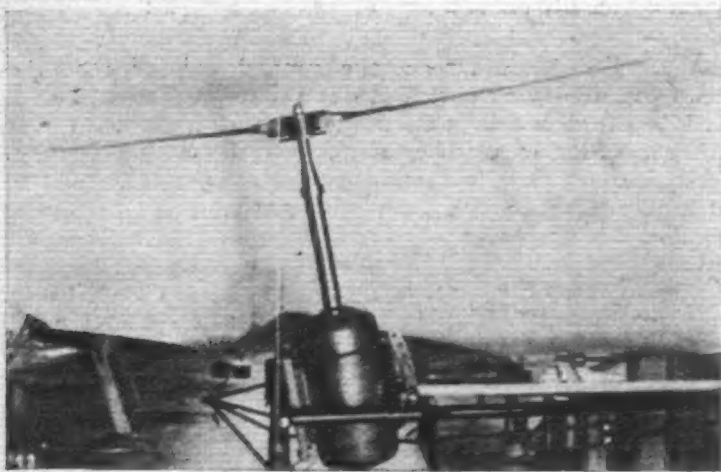
foresaw the possibility of obtaining direct lift from a rotating airscrew, and for the last thirty years aeronautical engineers have known that it was possible to lift a flying machine into the air by means of propellers rotating in a horizontal plane. The great problem has always been that of controlling the aircraft once it had left the ground, and nearly every helicopter produced until the last few years has failed on this very question of controllability. The little German lady pilot proved to the world that the problem has been solved.

## Understandable Reticence

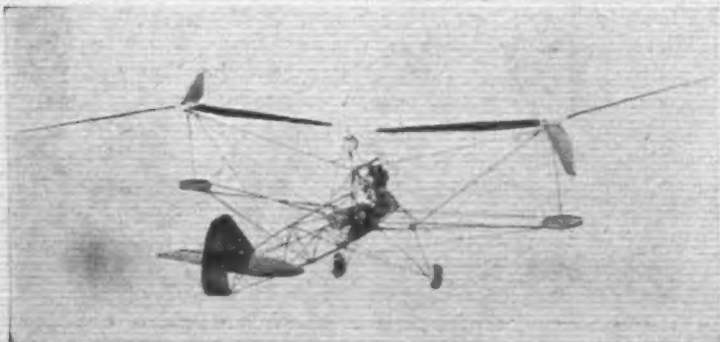
In view of the time and money spent on its development, it is hardly surprising if Professor Focke has refrained from disclosing important mechanical details of the F.W.61. However, in a recent issue of the German technical journal, *Luftwissen*, he has published an article in which he describes his reasons for choosing among the several possible arrangements the side-by-side twin-rotor, gives an account of the development work which ultimately resulted in the F.W.61, and discloses some, although by no means all, of the features of this extremely interesting machine. Following is a summary of the article, illustrated by photographs kindly placed at *Flight's* disposal by Professor H. Focke. In this connection it might be mentioned that although Professor Focke is head of the Focke-Wulf company of Bremen, a firm which he founded many years ago with Professor Wulf, who lost his life in a crash on a Focke-Wulf *Ente* tail-first machine, the F.W.61 is a product of another company, Focke, Achgelis and Co. Herr Achgelis will not be a complete stranger to *Flight* readers, for a few years ago he startled British audiences by his inverted flying across aerodromes at a height of 30ft. or so on a Focke-Wulf machine.

Professor Focke pays a tribute to the late Señor de la Cierva, and points out that although the Autogiro is not a helicopter, it forms an intermediate step between the fixed-wing aeroplane and the direct-lift machine. He also expresses his indebtedness to the British aerodynamicists Glauert and Lock, whose theoretical work on autorotation served as a basis for his own calculations in connection with driven as distinct from autorotating rotors.

When he began his work in 1932, the following official



Model of three-bladed rotor driven by 3 h.p. electric motor for tests in wind tunnel.



Petrol-driven model (0.7 h.p.) in free flight.